

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA**

State of Oklahoma,)	
)	
Plaintiffs,)	Case No. 4:05-cv-00329-GKF-PJC
)	
vs.)	
)	
Tyson Foods, Inc., et al.,)	
)	
Defendants.)	
)	

DECLARATION OF WILLIAM H. DESVOUSGES, PH.D.

I, William H. Desvousges, Ph.D., hereby state as follows:

1. I am the President of W.H. Desvousges & Associates, Inc., a consulting firm focused on the preparation and evaluation of natural resource damages assessments ("NRDAs").
2. In 1977, I received my Ph.D. in Economics from Florida State University. I have over 25 years of experience conducting economic valuation studies and have worked on over 32 NRDAs since 1987.
3. I have been retained by Defendants in the above captioned matter to provide my expert opinions regarding the NRDAs commissioned by Plaintiffs.
4. I have reviewed the two NRDA reports prepared by Stratus Consulting for Plaintiffs that were submitted to Defendants on January 5, 2009. These reports and associated appendices total more than 700 pages in length. Plaintiffs relied on a contingent valuation ("CV") methodology to estimate future damages and a benefits transfer methodology to estimate past damages.
5. Plaintiffs retained Stratus Consulting to coordinate the studies and to consolidate the work of a team of seven experts, three survey firms (Westat, Consumer Logic, and Wilson Research Strategies), and numerous other individuals and entities. It is my expert opinion that between fifty to seventy-five individuals worked on the NRDAs.
6. The team of experts involved in the study included:
 - Dr. Richard C. Bishop, Professor Emeritus, Department of Agricultural and Applied Economics, University of Wisconsin, Madison;
 - David J. Chapman, Principal, Stratus Consulting;

- Dr. W. Michael Hanemann, Chancellor's Professor, Department of Agricultural and Resource Economics and Goldman School of Public Policy, University of California, Berkeley;
 - Dr. Barbara J. Kanninen;
 - Dr. Jon A. Krosnick, Frederic O. Glover Professor in Humanities and Social Sciences, Stanford University;
 - Dr. Edward R. Morey, Professor, Department of Economics, University of Colorado, Boulder; and
 - Dr. Roger Tourangeau, Research Professor, Institute for Social Research, University of Michigan and Research Professor, Joint Program in Survey Methodology, University of Maryland, College Park.
7. Given the amount of resources spent by Plaintiffs, the over 12.5 gigabytes of "considered by" materials, the numerous studies conducted by Plaintiffs involving over 3,000 individuals, and the qualitative and quantitative analyses associated with these studies, I do not believe that it would be possible for me to fully address all of the deficiencies in Plaintiffs' reports by March 2, 2009. The March 2, 2009 deadline gives me less than two months to thoroughly critique a \$4.5 million, 2.5-year study conducted by a team of experts. Based on the materials I have reviewed thus far, I would need until June 2, 2009, to prepare a report fully addressing the flaws in Plaintiffs' reports.
 8. The CV methodology is one of many ways to attempt to value an economic loss. Simply put, contingent valuation is a direct survey approach. It involves the development of a questionnaire that is administered directly to a large number of individuals ("respondents") in an effort to determine the value that respondents place on a certain injury. CV studies describe an alleged problem and proposed solution and ask the respondents to indicate what they would pay to implement the solution. The responses are then compiled and analyzed to estimate natural resource damages.
 9. The questionnaire developed by Plaintiffs described the alleged aesthetic and ecosystem injuries to the Illinois River system and Tenkiller Lake due to phosphorous loading. It informed the respondents that approximately sixty percent of the phosphorous loading was due to the application of poultry litter and that the State had sought an injunction to stop the application of poultry litter. The questionnaire told respondents that the State was considering applying alum to the land and water that would cause the river and lake to return to 1960 conditions forty years faster than it would if no alum was applied. The questionnaire then proposed a one time tax (randomly varied in amount among respondents) and asked if the respondents would pay such a tax.
 10. Interviewers read the questionnaire to the respondents and recorded respondents' answers by typing them into a computer. When prompted by the questionnaire, the interviewers showed respondents visual aids created by Plaintiffs' experts. These visual aids contained photographs of allegedly impacted and unimpacted water bodies, maps, and timelines. The way in which interviewers administer a survey and record respondents' answers can have a significant impact on the validity of a CV study.

11. Plaintiffs analyzed the CV survey results using numerous statistical analyses to estimate a damages value for injuries from 2009-2058 for the Illinois River system and 2009-2068 for Tenkiller Lake. Plaintiffs valued the natural resource damage during this time period at \$184.55 per household in the study area, resulting in a damages estimate of \$249,673,635 for future injury. Plaintiffs then used a "benefits transfer" methodology to project the \$184.55 per household value back in time to estimate damages for the time period from 1981-2008. Plaintiffs concluded that the damages during this period were \$361,856,352. The total amount of damages estimated by Plaintiffs is \$611,529,987.
12. I am an expert on CV and benefits transfer methodologies. I have over twenty years of experience with these methodologies and have performed numerous CV and benefits transfer studies, critically evaluated numerous CV and benefits transfer studies, and authored numerous peer reviewed articles on CV and benefits transfer.
13. CV studies require a significant amount of resources and time to perform. Based on my review of Plaintiffs' damages reports and "considered by" materials to date, it is my expert opinion that Plaintiffs spent over \$4.5 million and over 2.5 years on their NRDA's, beginning in 2006. It is my opinion that the vast majority of these resources were spent on developing and executing Plaintiffs' CV study.
14. Plaintiffs expended a considerable amount of effort to develop the CV questionnaire and survey technique. Plaintiffs convened twenty focus groups from October 2006 through July 2008 that involved "free flowing discussions to explore people's thinking about the issues" so that Plaintiffs could develop and revise the draft questionnaire's description of the injury, solution, and the extent to which "the poultry industry should pay for the cleanup." Plaintiffs convened four one-on-one interview sessions to further evaluate respondents' reaction to draft questionnaires. Plaintiffs pre-tested draft questionnaires on four occasions with a total of approximately 600 individuals and performed two pilot studies in the field with a total of approximately 300 individuals. Once Plaintiffs finalized the questionnaire and survey technique, they performed a survey involving in-person interviews of approximately 1,700 respondents. Plaintiffs ultimately interviewed over 3,000 individuals during the course of their damages evaluation.
15. The record indicates that Plaintiffs did not initially expect to perform a CV study. In 2006, Plaintiffs conducted a recreational use intercept survey. Plaintiffs' experts sent individuals to Lake Tenkiller and the Illinois River to measure recreational use and to ask individuals questions about their recreational use habits in an attempt to determine a relationship between the alleged injury to these water bodies and recreational use. The record indicates that most of the individuals surveyed had a positive impression about these resources. The 2006 intercept study is not mentioned in the damages reports, and it is my opinion that the results of this study likely influenced Plaintiffs' decision to use a CV approach since the results were not beneficial to Plaintiffs. I must completely evaluate the intercept study before I can fully rebut Plaintiffs' damage reports.
16. The record also indicates that Plaintiffs performed a telephone survey in 2006 before fully committing to a CV approach. Consumer Logic, Inc., the firm conducting the

telephone survey, contacted or attempted to contact over 4,300 individuals throughout the State. The study was designed to understand individuals' knowledge and use of the water bodies of interest, their perceptions of water quality at these water bodies, and their impressions of the poultry industry. The 2006 telephone survey is not mentioned in the damages reports, and it is my opinion that the results of this study likely influenced the decision to use a CV approach since the results were not beneficial to the Plaintiffs. As noted by Dr. Edward Morey, one of the expert authors of Plaintiffs' CV report, "[i]f estimated damages are to be significant, people will have to be educated about the injuries. There is currently not a lot of knowledge of the injuries." The CV methodology was likely selected by Plaintiffs, in part, so that Plaintiffs could tailor a description of alleged injuries to "educate" respondents. I must completely evaluate the telephone survey before I can fully rebut Plaintiffs' damage reports.

17. The type of valuation method used in the 2006 recreational use intercept study measures "use" values. In other words, it attempts to measure how an injury affects the way in which people actually use a natural resource and apply this measure to estimate natural resource damages. This is in contrast to a CV methodology that measures "use" and "nonuse" values. Nonuse values are associated with preferences that do not demonstrate themselves in an observable manner. Nonuse values may exist for those who use the resource and those who do not. A CV survey includes individuals who may have no familiarity with the natural resource in an attempt to get them to value the injury to that resource.
18. Accurately measuring nonuse values is much more difficult than measuring use values because use values are observable (i.e., revealed). Nonuse values cannot be observed and depend on an individual's ability to quantify his preferences. Reliance upon an individual's quantification of preferences injects much more uncertainty into a damages calculation than one based on objective observation and may result in an invalid damages estimate.
19. The way in which an individual's preferences are expressed or valued, and therefore, the accuracy of the results from a CV study, are highly dependent upon a number of factors. For example, the results of CV studies are heavily susceptible to bias. Bias can appear in, among other things:
 - the narrative description of injury;
 - the way that the cause of the problem is identified and presented;
 - the proposed solution;
 - the way that the survey questions are worded;
 - the way in which the questions are asked and what the interviewer tells the respondent during the survey;
 - the visual aids shown to the respondent; and
 - the way that the respondent's answers are processed.

20. The accuracy of the results from a CV study are also dependent on the injury description. If the injury is not accurately described, the results of the study are meaningless as the respondents valued an injury that does not exist.
21. I have reviewed the "considered by" materials related to the two NRDA studies to the best of my ability to date. However, it will take a significant amount of time to thoroughly review and evaluate all of these materials. It is my understanding that they contain over 13,000 individual files, including approximately 1,400 Microsoft Word documents, 3,900 emails, 500 Excel spreadsheets, and 4,300 Adobe Acrobat files. It is my understanding that one subfolder of Adobe files, "Hardcopy documents," contains over 24,000 pages of material.
22. It is my understanding that the total file size of the "considered by" materials exceeds 12.5 gigabytes and that this total file size is approximately equivalent to an 800,000-page Microsoft Word document. These materials include, among other things:
- draft reports;
 - meeting notes and PowerPoint presentations;
 - recreational use data and numerous recreational use databases;
 - reports and literature on recreational use throughout the United States;
 - statistical analyses and associated spreadsheets;
 - data files from pre-tests, pilot tests, and the main CV study;
 - data files from the 2006 recreational use intercept study;
 - data files from the 2006 telephone survey;
 - over two years of correspondence between the numerous experts involved in the studies, between Stratus employees, between Stratus and the numerous experts, and between Stratus and the survey companies;
 - scientific literature related to NRDA's;
 - draft and final survey questionnaires;
 - interview notes from the 2006 recreational use intercept study;
 - summaries of materials related to focus group interviews; and
 - miscellaneous Stratus files.
23. Based on my review of the "considered by" materials to date, they do not identify all of the sample housing units selected by Plaintiffs during the CV study. The sample housing units identify the physical addresses of the individuals chosen for the survey. Without the sample housing units, I am precluded from independently confirming the way in which Plaintiffs selected survey respondents.
24. Based on my review of the "considered by" materials to date, they do not contain the identity of all individuals surveyed or questioned during the course of Plaintiffs' damages evaluation. Plaintiffs evaluated the opinions of the individuals interviewed in the recreational use intercept study and the telephone survey in selecting the CV methodology used to estimate natural resource damages. Plaintiffs evaluated the opinions of the focus group, interview session, pre-test, and pilot test participants in

developing and refining the questionnaire used in the final survey. Plaintiffs analyzed final survey respondents' answers to the questionnaire to value natural resource damages.

25. Without access to the individuals surveyed or questioned during the course of Plaintiffs' damage evaluation, I am precluded from fully determining:

- the effect of survey questionnaire design on the interviewees' responses and Plaintiffs' damages calculation;
- the rationale behind selecting a CV methodology after completing the telephone survey and recreational use intercept study; and
- the totality of information provided to respondents during the interviews.

Therefore, their identity is necessary to fully critique Plaintiffs' NRDA's.

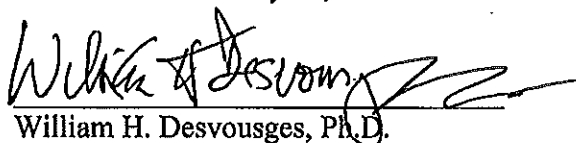
26. The "considered by" materials contain a spreadsheet that identifies the number of times that Plaintiffs contacted each of approximately 190 respondents or potential respondents to the final survey, a summary of the comments made to the contacting individual by each of these respondents or potential respondents, the date of last contact, and the interviewer name associated with each respondent or potential respondent. Based on my review of the "considered by" materials to date, they do not contain this information for any other respondents or potential respondents to the final survey or to any other survey conducted by Plaintiffs during the course of its damages studies. Without this information for all respondents and potential respondents, I am precluded from fully evaluating bias and non-response bias.

27. Based on my review of the "considered by" materials to date, they do not contain the "record of actions" identified on pg. 4-38 of the damages report entitled "Natural Resource Damages Associated with Aesthetic and Ecosystem Injuries to Oklahoma's Illinois River System and Tenkiller Lake." According to this report, the record of actions includes the name and phone number of each respondent. As indicated by its name, it may also contain additional information such as that described in Paragraph 26, above, that is relevant to a full evaluation of bias and non-response bias.

28. It was not possible for me to begin the full scope of my expert work in evaluating Plaintiffs' studies until I received the reports and "considered by" materials due, in part, to the number of potential methodologies available to Plaintiffs to perform an NRDA.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on February 13, 2009


William H. Desvousges, Ph.D.